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ABSTRACT

Focusing on the occupational clusters of clerical, business, sales and trades, and manufacturing, this unit entitled "Manufacturing" is one of four grade 5 units which are part of a total set of twenty-seven career development curriculum units for grades K-6. This unit is organized into four sections. Section 1 identifies one career development-centered curriculum (CDCC) element (life-role understanding), four career development themes (e.g., understanding the characteristics of life-roles and their functions), five unit goals (e.g., become familiar with characteristics of jobs within the manufacturing industry), and five performance objectives (e.g., given a list of ten occupations with a choice of three characteristics after each, identify the one characteristic that best describes each occupation). Also included in Section I are evaluation procedures (pre- and post-assessment and evaluation tabulation forms) for the unit. Section II describes teaching strategies for three unit subtopics (capsules) and includes suggested resources for teaching each one. Capsule topics include setting up a mock factory and culminating activities. Section III contains five reference sheets and section IV contains thirty-one activity sheets. (CT)

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ED169269

Suggested for
Grade 5

MANUFACTURING

one in a series
of
CAREER DEVELOPMENT CURRICULUM UNITS
for the
Elementary Classroom

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CDCC Project
ESEA Title III
Coloma Community Schools
P.O. Box 218
Coloma, Michigan 49038

CE 020 094

MANUFACTURING

Grade 5

(Third Edition)

one in a series
of

CAREER DEVELOPMENT CURRICULUM UNITS

for the

ELEMENTARY CLASSROOM

Developed by:
Shirley Khan
Marjorie Krell
Bob Leonard
Wes Platt
5th Grade Teachers
Joyce Tutton, Elementary Project Coordinator

Edited by:
Charlotte Groff

Art Work by:
Mary Lou McCain

CAREER DEVELOPMENT CENTERED CURRICULUM PROJECT

ESEA TITLE III

Gerald Geik, Project Director

William Barrett, Superintendent

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FOREWORD

The series "Career Development Curriculum Units for the Elementary Classroom" represents the outcome of three and one-half years of effort on the part of many individuals within Coloma Community Schools. The work was completed under an ESEA Title III project entitled "Career Development Centered Curriculum" (CDCC) in cooperation with the Michigan Department of Education. The series constitutes a response to the ever-increasing need to augment and enhance each students' career development process.

The series of twenty-seven curriculum units consists of a logical, sequenced arrangement of learning activities based on development tasks and content consistent with accepted career development theory and practice.

The approach is one of integrating career awareness with existing subject matter as well as building into the curriculum a sound approach to self-awareness. Learning activities are linked to performance objectives for which there are evaluation techniques; making it possible to assess impact on learners.

Gerald Geik
Project Director

ELEMENTARY CAREER DEVELOPMENT: THE UNIT APPROACH

An Elementary Career Development Curriculum Unit is a group of interdisciplinary learning experiences for which there are expected outcomes identified in the form of performance objective. Because they are interdisciplinary, they include learning and practice in math, communication arts, science and social studies as vehicles for conveying the career development aspects of an individual's growth. Learning activities are built around either self-awareness or occupational cluster topics.

Developed by teachers or counselors, they are based on CDCC themes and elements, aligned with career developmental tasks.

They include a variety of teaching strategies in the form of role-playing, discussions, work sheets, field trips, use of role models, use of A.V. materials, etc. They include evaluation strategies, (both observational and paper and pencil), based on unit performance objectives. Time of implementation for each unit is approximately two instruction hours per day for a period of two to three weeks. One unit is taught during each nine-week grading period at each grade level.

A single unit is a small part of a total sequence of learning experiences that all together contribute to the individual's career development process.

UNIT TITLES IN THE SERIES "CAREER DEVELOPMENT CURRICULUM UNITS FOR THE ELEMENTARY CLASSROOM"

	UNIT TITLE	FOCUS
K	ME	Self Awareness: Physical Self
	INSIDE ME	Self Awareness: Emotional Self
	SCHOOL WORKERS	Occupational Clusters: Public Service, Clerical
	COMMUNITY HELPERS	Occupational Clusters: Public Service, Natural Resources, Health
1	FRIENDSHIP	Self Awareness: Social Self
	A FEW OF OUR FAVORITE THINGS	Occupational Clusters: Arts, Technology, Research, Personal & Product Services
	TELEPHONE WORKERS	Occupational Clusters: Transportation, & Communication
	THE FOOD STORE	Occupation Clusters: Business & Sales

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ESEA Title III
Coloma Community Schools
Coloma, Michigan

	UNIT TITLE	FOCUS
2	MY ENVIRONMENT	Self Awareness: Environmental & Physical Self
	BAKING INDUSTRY	Occupational Clusters: Natural Resources, Manufacturing
	FIREFIGHTERS	Occupational Cluster: Public Service
	PET INDUSTRY	Occupational Clusters: Public Service, Personal & Product Services
3	DAIRY INDUSTRY	Occupational Clusters: Health, Manufacturing
	RESPONDING BEHAVIOR	Self Awareness: Emotional & Social Self
	RESTAURANT INDUSTRY	Occupational Clusters: Health, Hospitality and Recreation
	AIRLINE WORKERS	Occupational Clusters: Health, Hospitality, Recreation Clerical, Technology & Research
4	FORESTRY	Occupational Cluster: Natural Resources
	BEST FOOT FORWARD	Self Awareness: Self Appraisal, Goal Setting and Social Self
	POSTAL WORKERS	Occupational Cluster: Public Service
	POLICE WORKERS	Occupational Clusters: Clerical, Public Service
5	OUR GROUP AND ME	Self Awareness: Group Roles & Social Self
	MANUFACTURING	Occupational Clusters: Clerical, Business, Sales & Trades, Manufacturing
	HOSPITAL WORKERS	Occupational Clusters: Technology & Research, Clerical, Personal & Product Service & Health
	MY FEELINGS ARE ME	Self Awareness: Emotional Self
6	GOING ABROAD, ANYONE?	Occupational Clusters: Transportation & Communication, Hospitality & Recreation
	ME, MYSELF AND I	Self Awareness: Physical, Emotional, Social & Intellectual Self
	T.V. INDUSTRY	Occupational Clusters: Business, Sales & Trades, Arts and Entertainment, Transportation & Communication, Technology and Research

THE CDCC PROGRAM (K-6)

One dimension of human growth and development is the career development process. In this process each person progresses through a sequence of developmental tasks that make it possible for that person to become a self-fulfilled individual. This is a life-long process involving experiences and decisions that sequentially build on each other. When taken cumulatively, they contribute to the formulation of a realistic self-concept that can be expressed through one's occupational, leisure, family, and civic life-roles.

The career development process can be augmented by building career development curriculum units into the already existing curriculum. In developing the units, three things were considered: 1) career development themes, 2) career development tasks through which individuals normally progress, and 3) subject matter in the already existing curricula. All three of these were brought into focus when generating component goals and objectives and developing learning activities.

The curriculum units altogether constitute the sequential placement of career development activities into the existing K-6 curriculum. Career Development Themes define the *scope* and Career Development Tasks define the *sequence* of the CDCC program. To signify the relationship of the elementary program to the total, elements, themes, developmental tasks and occupational clustering system are presented.

CDCC PROJECT ELEMENTS AND THEMES

CDCC ELEMENT I -- Life-Role Understanding (occupational, avocational, family, civic)

- Theme 1.1 The student will understand life-role activity as self-enhancing. (psychological, economic, life-style implications)
- Theme 1.2 The student will understand life-role activity as societal-contributing. (economic, societal-need implications)
- Theme 1.3 The student will understand the relationship of education to life roles.
- Theme 1.4 The student will understand the desirable attributes of individuals in life roles.
- Theme 1.5 The student will understand the characteristics of life-roles and their functions.
- Theme 1.6 The student will understand the relationship of life-role changeableness to individual cope-ability.

CDCC ELEMENT II -- Decision-Making Skill Development and Utilization

- Theme 2.1 The student will set personally relevant goals as part of decision-making.
- Theme 2.2 The student will identify and use information about self and life roles as part of decision-making.
- Theme 2.3 The student will understand decision-making as identifying alternatives, selecting the alternative most consistent with goals, and taking steps to implement a course of action.

CDCC ELEMENT III -- Realistic Self Concept Formulation

- Theme 3.1 The student will understand his or her own uniqueness as a result of personal learning, growth, and maturation.
- Theme 3.2 The student will understand the relationship of social and education forces to his or her individual development.
- Theme 3.3 The student will understand the relationship of self-knowledge to a value system unique to him or her.
- Theme 3.4 The student will understand the relationship of his or her interests, aptitudes and achievements to career goal realization.

CAREER DEVELOPMENT TASKS*
FOR
LIFE-ROLE UNDERSTANDING, C.D.C.C. ELEMENT I

K-3	4-6	7-9	10-12
Occupational values and attitudes are formed and are used as a basis for judgment. Children establish relationships between experience and action, manipulate language and symbols primarily by imitating models and accommodating their behavior to the behavior observed in others with whom they identify, i.e., people in various life-roles. (Focus is generally on home, school and neighborhood.) Children are acquiring respect for particular people and their life-roles, especially for the work they do. (Adults must foster positive attitudes toward all kinds of life-roles.) Children can distinguish between occupations primarily on the basis of tool and uniform clues. They develop interpersonal skills that permit them to gain acceptance by peers in parallel play and sharing.	Children continue to face the same kinds of tasks but with more complexity. They enter the phase of conceptual learning. They develop the ability to conceive the function of life-roles. They generalize (abstract) their respect for specific people and their life-roles to an appreciation of all people everywhere. As they learn the value of mankind, they learn to value themselves. They increase their knowledge of life-roles by expanding experiences beyond home, school and neighborhood. As they begin to understand the concept of work and value it as an institution, they develop self-direction--this helps build a positive self-concept. They are refining interpersonal skills to build confidence in their ability to successfully interact with peers in more complex types of group activities.	Youth develop the capacity to operate on hypothetical propositions--they have learned to think more logically and abstractly. They are better able to cope with cultural and environmental demands. They can make internal interpretations of environmental transactions and generalize these to other situations. Concepts which have been learned previously are used to build further concepts. As they learn about life-roles and life-role settings, they determine the subtle factors involved in life-role satisfaction and rewards--looking for what they personally find necessary, important and valuable. (They should acquire knowledge about life-roles and curricula to help them think realistically about their futures.)	Youth expand and refine tasks of earlier levels. They determine to a large extent, the course of their own futures. The individual must define the level of his or her educational aspiration and arrange training accordingly. Concepts which the individual holds about self and life-roles become internalized to the point where they form the basis for particular generalizations concerning his or her career life identity. The individual must acquire skills, responsibility, and confidence in life-roles through actual experiences. Through these experiences, individuals test their self concept.

*After Ginzberg (1951), Havighurst (1964), Super (1969), and Tennyson (1970).

CAREER DEVELOPMENTAL TASKS*
FOR
DECISION-MAKING SKILL DEVELOPMENT, C.D.C.C. ELEMENT II

K-3	4-6	7-9	10-12
Fantasy period: Children make unrealistic choices based on dreams and wishes. The individual does not wonder whether he or she has the appropriate abilities to do what he or she wants to do. (Teachers and parents should readily accept unrealistic statements.)	Late fantasy period, early tentative period. (During early tentative period, children should be helped to see that there are still a number of years before career plans must be set.)	Tentative period: The individual begins to recognize the problem of career choice; decisions are tentative but more realistic. The individual is continuously obtaining new information and experience, revising previous choices and making new choices. (Gradually the youngster should be helped to explore the difference between fantasy and reality in making decisions.) The individual begins to formulate a career hypothesis (tentative) --a narrowing process of identifying interests, values, capacities, and opportunities. Making successful decisions strengthens the individual's self-concept.	Late tentative period, realistic period: The individual's considerations become much more practical as well as important. The decision-making process must become personalized. Because the environment is constantly changing, a major real-life problem is how to plan for change--a realistic decision-making process for the individual requiring commitment with tentativeness. As the individual expresses his or her self-concept through complex real-life decisions, he or she becomes able to utilize personal attributes to influence the nature of future choices rather than merely to adapt to external pressures. Learning to make decisions and accept responsibility for them helps the individual develop responsible independence and individuality. The individual's career hypothesis is reformed to make adjustments for changing interests, abilities, values, and increased knowledge of life-roles.

*After Ginzberg (1951), Havighurst (1964), Super (1969), and Tennyson (1970).

CAREER DEVELOPMENT TASKS*
FOR
REALISTIC SELF CONCEPT FORMULATION, C.D.C.C. ELEMENT III

K-3	4-6	7-9	10-12
Children become aware of themselves and their environment and differentiate between them. They are acquiring a sense of some control over their own course of events--a sense of agency. (The child must have successes to build self-confidence thus building tolerance for others). Children begin developing interpersonal skills that permit them to be socially acceptable to their peers. The child realizes that people are not objects and recognizes their humanness. (They need an atmosphere where mistakes are expected and each is respected as an individual.)	The individual is concerned about what he or she can do. The individual should be developing a positive self-concept. Each child develops his or her interest and ability to accomplish tasks. (Children need opportunities to work and reinforcement for it.) Individuals should be building social self confidence in themselves to relate successfully to others. (They need a continued atmosphere of mistakes being expected and tolerated and each is accepted and respected as an individual.)	The individual undergoes great changes physically, intellectually and socially. Each explores his or her self attributes while clarifying the self-concept--each individual reinterprets the self-concept developed earlier in terms of the 'new self'. Each individual must come to accept himself or herself as an entirely different person outwardly, and to some extent inwardly. The single most important task for the individual during this state is to achieve a sense of personal identity.	The individual is engaged in reality testing of the self-concept--each is checking his or her perceptions of abilities, aptitude and other persona resources against external reality. The individual is becoming aware of a preferred life style as related to self-concept.

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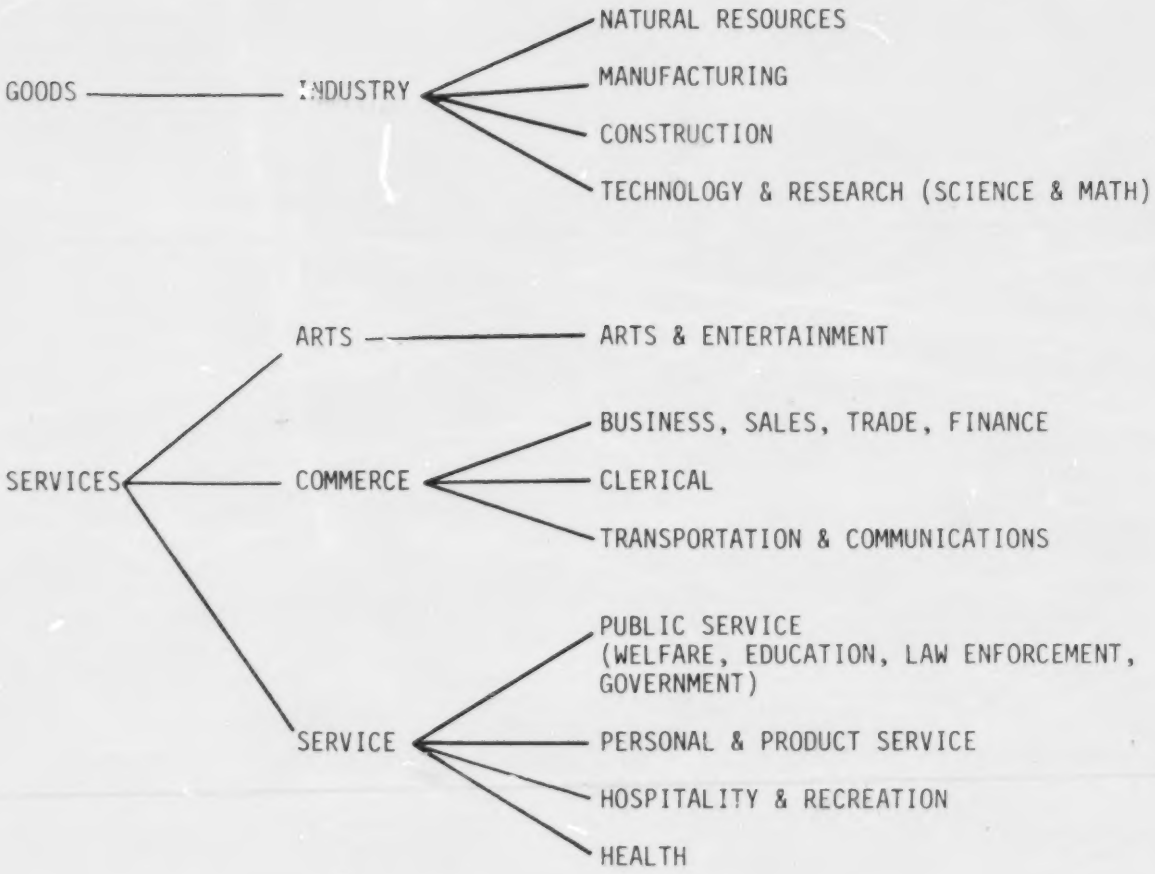
*After Ginzberg (1951), Havighurst (1964), Super (1969), and Tennyson (1970).

C.D.C.C. OCCUPATIONAL CLUSTERING SYSTEM



USING THE UNIT

SECTION I	Identifies CDCC Elements, Themes, Unit Goals and Performance Objectives to be affected by teaching the unit to a group of learners; includes evaluation design and/or test items for determining impact on learners.
SECTION II	Describes teaching strategies by unit subtopics (capsules) and includes suggested resources for teaching each capsule.
SECTION III	Contains reference information for teachers from which a background can be built to effectively conduct the learning activities.
SECTION IV	Contains activity sheets for student's use.

"Manufacturing"
Grade 5

Unit Rationale

This unit's primary intent is to help the students discover a relationship between their current school experiences and the real world of work. Students will become aware of the interdependence of jobs and of the societal contributions that are made by manufacturing.

Three major themes are identified and incorporated within this unit.

The major topics included in this unit focus on the interdisciplinary approach. The activities integrate social science, math, language arts, science, and art. The performance objective activities include various kinds of multi-media spheres of action.

Teacher Information

This unit may be taught over a period of three to six (3-6) weeks. Note that the daily or weekly hours spent on this unit may vary according to the activities or schedules of each teacher. Plan that this unit will take a minimum of approximately twenty (20) hours.

Teacher Preparation

1. Study the unit carefully.
2. Make copies of the evaluation and activity sheets.
3. Refer to the Resources and Materials' Columns. Obtain the necessary materials and/or equipment.
4. Refer to the following (or similar) references for background information:

Books

Occupational Outlook Handbook, U.S. Department of Labor, Bureau of Statistics, Bulletin 1700.

World Book Encyclopedia, Field Enterprises Educational Corp., ("Manufacturing, Industry, Industrial Revolution," etc.)

Reference Sheets #1a and #1b.

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"Manufacturing"
Grade 5

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ELEMENTS, THEMES, GOALS, AND PERFORMANCE OBJECTIVES
"Manufacturing"
Grade 5

Element #I - Life-Role Understanding (occupational, avocational, family, civic)

Theme 1.2 - The student will understand life-role activities as societal-contributing. (economical and societal-need implications)

Unit Goal- The student will become aware of manufacturing's contributions to society.

Unit P.O. #1 - Given a list of ten (10) contributions to society, the student will identify with at least 80% accuracy those contributions made possible by manufacturing. (Evaluation Sheet #2 - Section A)

Theme 1.4 - The student will understand the desirable attributes of individuals in life-roles.

Unit Goal - The student will understand the desirable attributes of workers in the manufacturing industry.

Unit P.O. #2 - Given a list of twenty-five (25) worker-characteristics, the student will identify with at least 80% accuracy whether those characteristics are desirable or undesirable for workers in the manufacturing industry. (Evaluation Sheet #3)

Theme 1.5 - The student will understand the characteristics of life-roles and their functions.

Unit Goal - The student will understand the characteristics of life-roles and their functions.

Unit P.O. #3 - Given a list of twenty (20) workers, the student will identify those whose jobs are within the manufacturing industry. (Evaluation Sheet #2 - Section B)

Unit Goal - The student will become familiar with characteristics of jobs within the manufacturing industry.

Unit P.O. #4 - Given a list of ten (10) occupations with a choice of three (3) characteristics after each, the student will identify the one characteristic that best describes each occupation. (Evaluation Sheet #4)

ELEMENTS, THEMES, GOALS, AND PERFORMANCE OBJECTIVES
(Continued)

Theme 1.6 - The student will understand the relationship of life-role changeableness to individual cope-ability.

Unit Goal - The student will become aware of the harmful and beneficial side effects of the changes brought about by manufacturing.

Unit P.O. #5 - The student will give at least five (5) examples of harmful and beneficial side effects of the changes brought about by manufacturing.
(Evaluation Sheet #1)

Evaluation Procedure
"Manufacturing"
Grade 5

Pre-Assessment

1. Do not discuss any aspect of this unit with the students before administering the pre-test evaluation sheets.

2. Make copies of Evaluation Sheets #1, 2, 3, and 4 for the students.

3. Distribute Evaluation Sheet #1. Read the directions for this sheet aloud as the students read along silently. Do not explain words or vocabulary to the students in a pre-test assessment.

4. Follow the same procedure for Evaluation Sheets #2, 3, and 4 which will be given during the same evaluation period.

5. Record the students' raw scores on Evaluation Tabulation Form B in the correct columns of the pre-test sections.

   a. Total the columns to indicate the number of students who met the criteria as stated in the respective performance objectives.

   b. Transfer these totals to Evaluation Tabulation Form A.

6. Study the pre-test results. Determine the areas in which the students need the most work. Refer to the goals and objectives.

7. Follow the post-assessment procedures at the conclusion of this unit.

Post-Assessment

1. Follow the same procedure as listed in the instructions #2-6 above, but record the scores in the post-test sections.

2. Use Evaluation Tabulation Form B to figure the percentage of growth made by each student.

3. File the completed Evaluation Tabulation Forms A and B in the building office.

Evaluation Tabulation Form A

Unit Name "Manufacturing" Teacher _____

Building _____ Grade 5th

Performance Objective	*Evaluation Sheet #	Test Items	Accepted Level of Performance	# of Students Taking Test	# of Students Reaching Accepted Level	OPTIONAL % of Students Reaching Accepted Level
5 Pre - Identify side effects of manufacturing.	1	6	5			
5 Post- Identify side effects of manufacturing.	1	6	5			
1 Pre - Identify contributions made by manufacturing to society.	2 - Sec. A	10	8			
1 Post- Identify contributions made by manufacturing to society.	2 - Sec. A	10	8			
3 Pre - Identify workers in manufacturing.	2 - Sec. B	20	20			
3 Post- Identify workers in manufacturing.	2 - Sec. B	20	20			
2 Pre - Identify desirable worker characteristics.	3	25	20			
2 Post- Identify desirable worker characteristics.	3	25	20			

*Administer the tests in the sequence listed above.

Date Returned _____

Evaluation Tabulation Form A
(Continued)

Performance Objectives	*Evaluation Sheet #	Test Items	Accepted Level of Performance	# of Students Taking Test	# of Students Reaching Accepted Level	OPTIONAL % of Students Reaching Accepted Level
4 Pre - Identify characteristics of occupations.	4	10	10			
4 Post- Identify characteristics of occupations.	4	10	10			

*Administer the tests in the sequence listed above.

Date Returned _____

Evaluation Tabulation Form B

Unit Name "Manufacturing" Teacher _____

Building _____ Grade 5th

1. Record the students' raw scores, for each evaluation sheet, in the correct columns.
2. Figure the percentage of growth for each student at the conclusion of this unit.
3. Total the columns at the bottom to show the number of students who met the criteria as stated in the objectives.
4. Transfer these totals to Evaluation Tabulation Form A.

Evaluation Sheet #	1			2 - Sec. A			2 - Sec. B			3			4		
P.O. # Student Names	#5 Pre	#5 Post	% of Growth	#1 Pre	#1 Post	% of Growth	#3 Pre	#3 Post	% of Growth	#2 Pre	#2 Post	% of Growth	#4 Pre	#4 Post	% of Growth
1.															
2.															
3.															
4.															
5.															
6.															
7.															
8.															
9.															
10.															
11.															
12.															
13.															
14.															
15.															
16.															

23

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Evaluation Tabulation Form B
(Continued)

Evaluation Sheet #	1			2 - Sec. A			2 - Sec. B			3			4		
P.O. # Student Names	#5 Pre	#5 Post	% of Growth	#1 Pre	#1 Post	% of Growth	#3 Pre	#3 Post	% of Growth	#2 Pre	#2 Post	% of Growth	#4 Pre	#4 Post	% of Growth
17.															
18.															
19.															
20.															
21.															
22.															
23.															
24.															
25.															
26.															
27.															
28.															
29.															
30.															
TOTAL															

Evaluation Sheet #1

Name_____

Date_____

List three (3) good things that might happen because of manufacturing.

_____

_____

_____

List three (3) bad things that might happen because of manufacturing.

_____

_____

_____

Evaluation Sheet #2

Name_____

Date_____

Section A

Place a check in front of each phrase that tells how manufacturing helps people.

_____ 1. Provides jobs in factory

_____ 2. Pays taxes to help the community

_____ 3. Makes more natural resources

_____ 4. Creates jobs for workers out of the factory

_____ 5. Gives the store owners products to sell

_____ 6. Makes many different products available to people

_____ 7. Makes natural resources useable

_____ 8. Allows profits for investors

_____ 9. Helps to raise the standards of living

_____10. Provides clean air for the community

Section B

Place a check in front of each job that may be found in the manufacturing industry.

1. _____ Milk deliverer
2. _____ Principal
3. _____ Foreman
4. _____ Assembler
5. _____ Shipping Clerk
6. _____ Inspector
7. _____ Sailor
8. _____ Veterinarian
9. _____ Packer and Wrapper
10. _____ Florist
11. _____ Dry Cleaner
12. _____ Welder
13. _____ Machinist
14. _____ Engineer
15. _____ Industrial Designer
16. _____ Waitress/Waiter
17. _____ Lift Truck Driver
18. _____ Optometrist
19. _____ Stock Clerk
20. _____ Farmer

Evaluation Sheet #3

Name_____

Date_____

Directions: Below are worker characteristics; some are desirable (worth having), and others are undesirable (not worth having). Place a check mark (✓) next to the desirable traits.

_____ 1. Is on time, or prompt, for work.

_____ 2. Complains about everything.

_____ 3. Is trustworthy and reliable.

_____ 4. Wastes time.

_____ 5. Is ambitious and eager for success.

_____ 6. Is reliable, and can work independently.

_____ 7. Gets started without being told.

_____ 8. Is honest, and does what is right.

_____ 9. Works hard and steadily.

_____10. Blames others for his/her mistakes.

_____11. Keeps on working in spite of difficulty.

_____12. Can work well with others.

_____13. Plans carefully.

_____14. Is very critical of others.

_____15. Attempts to avoid work of any kind.

_____16. Keeps up personal appearance.

_____17. Is considerate of others.

_____18. Is loyal to his/her employer (company).

_____19. Thinks only of himself/herself.

_____20. Follows directions.

_____21. Takes pride in his/her work.

_____22. Never makes excuses for his/her mistakes.

_____23. Has few interests, and is often bored.

_____24. Is unwilling to change his/her ideas.

_____25. Completes the tasks he/she starts.

Evaluation Sheet #4

Name _____

Date _____

From these lists of three (3) job characteristics, check the one that best fits each of these manufacturing occupations.

FOREMEN

_____ 1. direct otners

_____ 2. work alone

_____ 3. travel a great deal

ENGINEERS

_____ 1. think of new and better ideas

_____ 2. drive a train

_____ 3. work on an assembly line

ASSEMBLERS

_____ 1. work in an office

_____ 2. perform the same tasks many times a day

_____ 3. type letters to other companies

LIFT TRUCK DRIVERS

_____ 1. go on long trips

_____ 2. drive in small crowded areas

_____ 3. work at a desk

SHIPPING CLERKS

_____ 1. weigh articles and attach postage

_____ 2. sail ships to other countries

_____ 3. design ships and small sailboats

STOCK CLERKS

_____ 1. work with animals

_____ 2. distribute materials to workers

_____ 3. lead and take charge of others

INSPECTORS

_____ 1. observe small details

_____ 2. file letters in filing cabinets

_____ 3. design products

ADVERTISING PERSONNEL

_____ 1. assemble small parts all day

_____ 2. create new ideas

_____ 3. do bookkeeping and math

WELDERS

_____ 1. work with metal

_____ 2. drive trucks

_____ 3. drill wells

SECRETARIES

_____ 1. lift and move heavy machinery

_____ 2. type accurately

_____ 3. study blueprints

Answers for Evaluation Sheets #1-4
"Manufacturing"
Grade 5

Evaluation Sheet #1

Make a decision as to whether the students' answers are correct or incorrect. Accept an answer such as more products; i.e., cars, t.v., etc., only once. Encourage the students to list other than just products made. Explain that they must list both positive and negative answers. Observe that examples of positive answers are listed on Evaluation Sheet #2 - answers 1, 2, 4, 5, 6, 7, 8, and 9. Note that examples of negative answers might be pollution, damage to the habitats of the wildlife community which can upset the balance of nature, production of destructive war weapons, over-population in areas with heavy manufacturing, etc.

Evaluation Sheet #2 - Section A

Note that all answers should be checked except #3 and #10.

Evaluation Sheet #2 - Section B

Correct answers.	3	6	13	17
	4	9	14	19
	5	12	15	

Evaluation Sheet #3

Correct answers.	1	8	16	22
	3	9	17	25
	5	11	18	
	6	12	20	
	7	13	21	

Evaluation Sheet #4

Foremen - 1
Assemblers - 2
Shipping Clerks - 1
Inspectors - 1
Welders - 1
Engineers - 1
Lift Truck Drivers - 2
Stock Clerks - 2
Advertising Personnel - 2
Secretaries - 2

Capsule #1
Introduction

I. Introduce this unit by doing the following:

A. Select a manufactured item that reflects several manufacturing processes. Explain that a desk requires welding, molding, painting, assembling, inspecting, etc.

B. Ask the students to imagine and tell what workers were needed to get the item manufactured and delivered to the consumer. List these workers on the board. Include not only the immediate line occupations but also the more distantly related careers; i.e., advertising people, sales people, personnel, secretaries, accountants, etc.

II. Write the word manufacture on the board. Discuss the meaning of the word with the students, or have them look the word up and report back to the class.

*Note that the word manufacture comes from the Latin word manus (hand) and facere (to make). Observe that today manufacturing means the making of articles by machinery as well as by hand.

III. Let the students trace the history of manufacturing and its effect on humans and their environment. (Reference Sheet #2)

A. Have the students give reports on such items as the following: the Industrial Revolution, mass production, tools, labor, ecology, etc.

B. Let the students look at films, filmstrips, textbooks, encyclopedias, or Activity Sheet #1-3 and identify the positive and negative effects and side effects of manufacturing. List the students answers on the board, and discuss their answers with them. Have the students identify the changes in the manufacturing process.

IV. Choose from these optional related activities:

A. Stress art and social science skills.

1. Have the students make a bulletin board to illustrate manufactured and non-manufactured items.

*World Book Encyclopedia, Field Enterprises Educational Corp., p. 125, Vol. 13, 1969.

Resources & Materials	Notes
III. Reference Sheet #2	
B. Activity Sheets #1-3	
IV.	
1. Construction paper Magazines Scissors Crayons Drawing paper	
*World Book Encyclopedia, Field Enterprises Ed., Corp., p. 125, Vol. 13, 1969.	

2. Let the students illustrate with murals, booklets, silhouettes, bulletin boards, or dioramas the different stages in the history of manufacturing; i.e., tools, the Industrial Revolution, inventions, key people, etc.

B. Stress social science skills.

1. Let the students make maps to illustrate the following:

a. Have them show the various degrees of manufacturing in different regions of the United States.

b. Let them show what is manufactured in different regions of the U.S. (Let them make a large map and attach three-dimensional objects; i.e., toy chair for Grand Rapids, MI; toy auto - Detroit, MI; tiny toy cash register - Dayton, OH; etc.

2. Use a large map or the individual small maps on Activity Sheet #4. Let the students decide upon logical places for locating factories. Have them tell why they chose a particular location.

3. Have the students identify different manufacturing companies within their own community. Help them become aware of manufacturing within their community by doing the following:

a. Let them take a field trip around their community, ask their parents for information, or consult the yellow pages of their phone books.

b. Have the students make a large map of their community and identify the different manufacturing companies and the surrounding area or landmarks; i.e., train tracks, rivers, roads, woods, etc.

c. Let the students study the history of the different factories that are or were once in their community, and have them report back to the class.

d. Let the students compile as much information about these factories as possible. Have them discuss these factories' effects on the community.

1) Ask in what ways each of these factories contributed to the community. (Explain that they may have provided more jobs, brought more tax dollars to the community, built a park adjacent to their factory, etc.)

Resources & Materials	Notes
B. 1. Maps Minature items, i.e., cars, furniture, etc. 2. Activity Sheet #4 3. Telephone books Large paper for a map of the community or a large map of the community.	

2) Ask what negative effects some manufacturing companies have had on the community. Explain that they may have destroyed attractive wooded areas, caused excessive noise or air pollution, brought too many people to the area, and caused problems involved with over-population.

3) Ask why some of the factories moved or closed. Explain that there may have been a lack of money to meet higher production costs, etc.

4. Let the students discuss how citizens may put pressures on factories and the government to make changes that will benefit the people. Explain that they may use petitions, campaigns, and pressure for better enforcement of environmental control laws.

Resources & Materials	Notes

Capsule #2
Setting Up A Mock Factory

I. Let the students study about the different workers before setting up a mock factory.

   A. Have them search to find information pertaining to workers in the manufacturing industry.

   B. Let them discuss their findings.

   C. Have them interview a role-model. (See Reference Sheet #3)

   D. Let them go on a field investigation to study the workers, the processes, and the job characteristics. (See Reference Sheet #4)

II. Help the students understand worker-characteristics which pertain to factory workers.

   A. Let the students act out desirable and undesirable working situations from a given list of positive and negative characteristics. (See Reference Sheet #5)

   B. Give the students a critical incident depicting poor employee characteristics. Let the students do divergent thinking. Allow them to discuss and/or write their responses. (See Activity Sheets #5a - #5g) Let them discuss the Activity Sheets in class or write them out individually.

III. Set up a mock factory.

   A. Decide on a product to be sold.

      1. Make suggestions, or have the students design items and make suggestions.

      2. Lead the students to realize that establishing a company needs a good idea, or product, as well as capital. (Stress the word "capital" and its meaning.)

      3. Give the students the experience of deciding on a product to be sold and analyzing whether or not it might be a profitable item in which to invest. Let the entire class do the activities as suggested on Activity Sheet #6, or assign a few students the specific job of choosing a product, testing the product, etc.

Resources & Materials	Notes
I.	
C. Reference Sheet #3	
D. Reference Sheet #4	
II.	
A. Reference Sheet #5	
B. Activity Sheets #5a - #5g	
3. Activity Sheet #6	

B. Let the students discuss how they will finance their product.

1. Let them buy shares in the company.

2. Let them hold a fund raising project like a bake sale.

3. Let them borrow the money.

a. Ask where they could borrow money.

b. Ask what happens when people borrow money.

c. Ask if they will have to pay interest, and how much.

C. Decide on the positions to be filled in the factory, the duties for each position, and the skills needed. List these positions and duties on the board, or give the students Activity Sheet #6. Discuss these positions and duties with the students. Stress the abilities needed and the worker characteristics and responsibilities involved with each position. Decide who will assign the jobs - the teacher or the Personnel Director. (See Activity Sheet #6)

IV. Choose a product and make the necessary decisions.

A. Plan to set up the physical plant for manufacturing the product.

1. Decide how large an area will be needed.

2. Decide what different departments will be needed.

B. Plan the materials needed, and list them on the board. Discuss the sources where these materials may be obtained.

1. Have the students write a letter to their parents telling about the product they are going to manufacture and the kind of materials they will need. Ask the parents if they will contribute any of these materials and in what quantity.

2. Let the students purchase the materials from a supply house, craft shop, or a lumber yard. Note that the kind of product that the class manufactures will help to determine where the materials can be purchased.

3. Let the students write a letter to the vocational department of the school to inquire if any of the materials needed for their product are available.

Resources & Materials	Notes
C. Activity Sheet #6	

C. Be certain to have the material and/or the equipment for the protection of the workers, furniture, clothes, and carpets; i.e., snop aprons, safety glasses, plastic, newspapers, drop cloths, wastebaskets, etc.

V. Choose from these optional related activities:

A. Stress social science skills by helping the students become aware of how different industries depend on each other. Have the class set up more than one factory within the room. Let each factory be responsible for different areas; i.e., - designing a package and advertising, painting different parts, building small parts of the main article, etc.

B. Stress language skills by having the students write, produce, and direct a play or skit depicting the characteristics of workers.

C. Stress art skills by letting the students make posters depicting desirable or undesirable worker traits. (See Reference Sheet #5)

Resources & Materials	Notes
C. Reference Sheet #5	

Capsule #3
Culminating Activities

I. Look at the Evaluation Performance Sheet, Activity Sheet #12.

A. Let the students evaluate their own performance.

B. Have them role-play factory workers. Let them meet in small groups or with their immediate superior to observe how his/her evaluation of them compared with their own self-evaluations.

C. Discuss with the students that not all jobs require the same type of person but that the characteristics studied on Activity Sheet #12 are typical of those characteristics desirable in workers for many occupations.

II. Let the students complete their factory operations and settle their financial obligations.

A. Have the Bookkeeper, Business Manager, and Treasurer meet.

1. Let them find the gross income.

2. Have them settle the debts and/or the obligations for the costs of the product.

a. Have them pay for any expenses.

b. Let them return the money to the stock holders or the financiers.

3. Let them make a financial report to the class.

B. Have the class evaluate how they could improve the product, the operation of the company, and the sales and distribution of the product.

C. Let the class decide what to do with the profits.

1. Have them purchase an item for the room or school.

2. Let them go on a field trip.

3. Let them have a party or a picnic.

Resources & Materials	Notes
I. Activity Sheet #12	
C. Activity Sheet #12	

Reference Sheet #1a
Factories and Factory Workers

Factories make many different kinds of products. Factories make almost all the products people use except food. Many food products are processed in factories.

Kinds of Factories

A division of labor is a factory system of production. This system divides the work into a series of different operations. Most factories do a combination of two methods of manufacturing or one of those two methods.

In a job-lot or intermittent type of manufacturing, each department performs a particular set of operations on the product; i.e,. in building a record player, workers in one section build the case and those in another section install the tubes.

Another type of manufacturing is the serialized or assembly-line method; i.e., in an automobile plant the auto frame is placed on a conveyer belt which moves through the plant. As each auto moves along the conveyer belt, different parts are added to it at a particular place on the line.

People Who Work in Factories

About two-thirds (2/3) of the people in manufacturing work in the factory. Depending on what the factory makes, there are many different kinds of factory workers. Factories employ assemblers, inspectors, maintenance workers, machine operators, mechanics, and welders, to name only a few. (In the office that is usually attached to a factory, several types of office workers are employed. These include engineers, scientists, managers, secretaries, clerks, and sales workers.)

Hours and Pay

Factory workers' pay depends upon the kind of work that they do. When factories are busy and additional work is necessary, the workers earn overtime pay for the extra hours worked.

Training Required

Assemblers who put the parts of a product together are the only workers who do not require much special training. About 600,000 assemblers work in manufacturing plants. Two (2) out of five (5) are women.

Most other factory workers must have specialized training. For many manufacturing jobs, it is important to have had training in a vocational high school or a training school.

Reference Sheet #1b
Factories and Factory Workers

For some specialized jobs, it is possible to get on-the-job training. A supervisor or a more experienced worker might explain the work. The learner is then put for a period of time with someone who knows the work well.

Factory workers should be physically fit. Many male factory workers do jobs which are physically hard. In some factories women share these heavy jobs, but generally women do light work with small parts.

Employment Opportunities

It is sometimes possible for a factory worker to become a foreman or a plant supervisor. Naturally, foremen or supervisors receive more salary than a worker because they have more experience and knowledge and many more responsibilities to meet.

Sometimes workers are "laid off" for a while during slack periods. But this does not usually last very long. Most factories will need many more workers in the years to come.

Reference Sheet #2
*Some Effects of Industry

Effects of the First Phase

1. Before the revolution in 1750, farming was the most important occupation of all people.

2. The changes in industry generally enriched the people among whom they took place. Generally the standards of comfort rose rapidly.

3. The building of factories led to the rapid growth of cities.

4. In the city the standards of living were lowered.

5. Women, children and workers who would work for lower wages were brought into the city. This competition lowered the wages for the ordinary man.

6. The first Factory Acts dating from 1803-1844 removed the youngest children from the factories and limited the hours during which young persons and women might work.

7. The most tragic influence in the lives of the industrial workers was the appearance of large-scale business depressions.

8. Workers continued to demand political rights which finally led to the Reform Bill of 1867. Under this bill, town householders, including some of the factory owners, were permitted to vote.

9. Many laws were passed to help the first factories. Laws were repealed that limited production in the interests of established trades or protected workers against exploitation.

The Second Phase

By 1879:

1. Industry advanced faster than agriculture.

2. Goods were made by power-driven machinery, and workers were little more than tenders of machines.

3. Labor was being allowed to organize in order to fight for higher wages, shorter hours, and better working conditions.

4. The railroad, the improved sailing ships, the steamship, and the telegraph had reduced the cost and time factors in transportation and communication.

5. Living standards of the masses in industrial countries were higher.

6. Populations were denser than they had ever been.

What is the Third Phase?

Ecology movements? Social problems?

*Information taken from the World Book Encyclopedia, Field Enterprises Ed., Corp., 1969, p. 1840195.

Reference Sheet #3
Role-Model

Contact the role-models at least two weeks prior to their visit. Explain what the students expect of them, and give them an idea of what questions the students will be asking. (See below) Be sure to have them bring as many tools as possible and wear their uniforms, if they have any. Follow this contact up with a letter to confirm the date, time, etc. Have the role-models plan to talk about twenty to twenty-five (20-25) minutes and then answer the students' questions. Be certain to tell the role-models that the students want to handle the tools and to try on parts of their uniforms, if possible.

Suggest the following questions to the role-models:

1. Ask, "What is your job?"
2. Say, "Do you like your job?"
3. Ask, "How many hours do you work a day?"
4. Say, "What kind of training have you had?"
5. Ask, "Does anyone check on what you do?"
6. Ask, "What do you like most about your job?"
7. Ask, "What do you like least?"
8. Say, "What tools do you use?"
9. Suggest questions about the model's personal life. (family, hobbies, etc.)
10. Ask, "What are desirable worker characteristics?"

Add more questions to this list for each occupation. Develop the questions with the class prior to the role-models' visit. Let the students write the questions down so that they have something to start with.

Tape-record the role-models' visit for playing at a later time. Take pictures to use when reviewing.

Follow-up their visit by a class discussion.

Send thank-you letters or have the students send them within a day or two after the role-models' visit.

Reference Sheet #4
Field Investigation

Call the place the class is planning to visit at least one month in advance. Follow-up this call with a letter confirming all the things discussed and planned.

Discuss with the individual the following things:

1. Tell what you wish to see.
2. Mention what general questions the students will be asking.
3. Say how long they will be there.
4. Tell how many students will come.
5. Ask to which workers the students may talk.
6. Ask what equipment or tools the students may use or see.
7. Find out what kind of "hands on" experiences the students may have.

Obtain the principal's approval before planning the field investigation. Make bus arrangements for the students at least two weeks in advance.

Have two or three parents accompany the students on their trip. Contact them at least two weeks in advance.

Send a letter home to the parents telling where the students are going, when they are going, and if they need anything extra in the way of food, clothing, or money.

Prepare the students before the trip with the questions to ask the workers they will be seeing. Note that each investigation will be different. Suggest to the students that they bring a camera along.

Be sure to remind the building principal on the day of the trip about where the students are going and when they will return. Do the following activities when the students return from their trip:

1. Review what the students observed.
2. Review the interviews with the workers.

Be sure to send a thank-you letter or to have the students write and send one.

Reference Sheet #5
Worker Characteristics

_____ 1. Is on time, or prompt, for work.

_____ 2. Complains about everything.

_____ 3. Is trustworthy and reliable.

_____ 4. Wastes time.

_____ 5. Is ambitious and eager for success.

_____ 6. Is reliable, and can work independently.

_____ 7. Gets started without being told.

_____ 8. Is honest, and does what is right.

_____ 9. Works hard and steadily.

_____10. Blames others for his/her mistakes.

_____11. Keeps on working in spite of difficulty.

_____12. Can work well with others.

_____13. Plans carefully.

_____14. Is very critical of others.

_____15. Attempts to avoid work.

_____16. Keeps up personal appearance.

_____17. Is considerate of others.

_____18. Is loyal to his/her employer (company).

_____19. Thinks only of himself/herself.

_____20. Follows directions.

_____21. Takes pride in his/her work.

_____22. Never makes excuses for his/her mistakes.

_____23. Has few interests, and is often bored.

_____24. Is unwilling to change his/her ideas.

_____25. Completes the tasks he/she starts.

Name_____

Date_____

In 1798, Eli Whitney contracted with the federal government to manufacture 10,000 muskets for delivery in two years.

At the end of two years, he was called to Washington because he had only delivered 500.

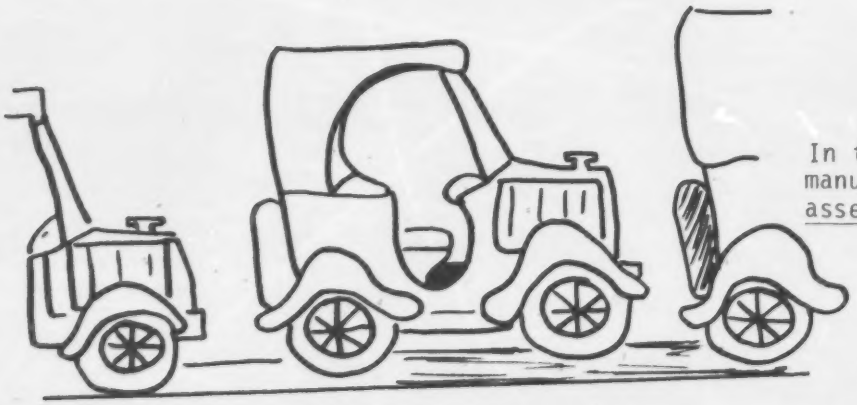
When called in front of a board of experts, he demonstrated how quickly he could assemble ten (10) muskets with the parts he brought with him. Any man could assemble a musket because each set of parts were exactly the same.

Activity Sheet #1b

Name _____

Date _____

By 1800 he had completed making the necessary tools. He could produce 10,000 muskets while the artisan gunsmith was making one.



In the early 1900's the automobile manufacturers originated the moving assembly line.

Different workers were stationed along the belt in what's called an assembly line. Each worker had a particular job to perform. This mass production made possible the division of labor.

Activity Sheet #2a

Name_____

Date_____

Steps in Manufacturing

I. Design-Products designed to attract the attention of buyers will be easy to use and will not be too expensive to produce or ship from place to place.

Sometimes a prototype (sample) is built and tested before the item is sold to the consumer.

II. Raw Materials-Materials from which products are manufactured come from forests, farms, fisheries, quarries, and mines. Some come from areas near by, and others come from far away.

Activity Sheet #2b

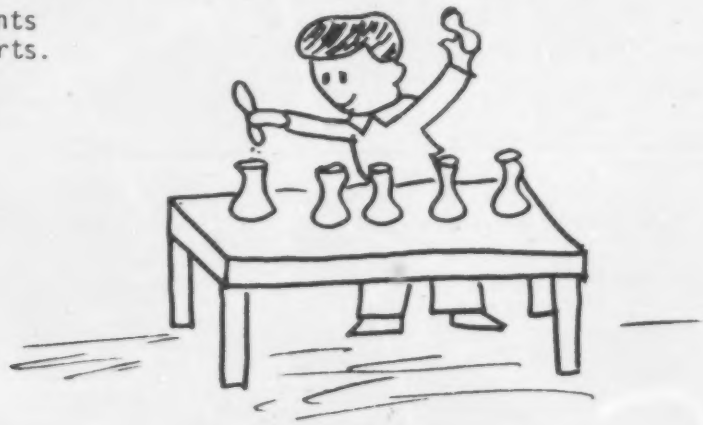
Name_____

Date_____

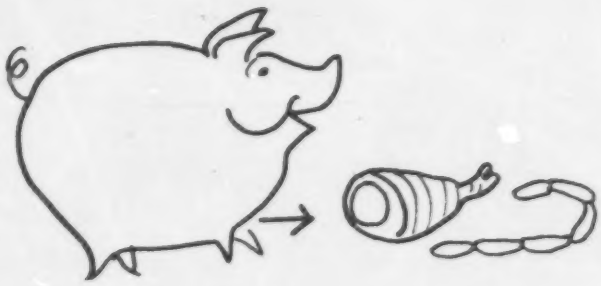
Steps in Manufacturing

III. Making products involves two (2) or more of three (3) processes, (1) synthetic, (2) analytic, and (3) conditioning.

A. Synthetic - mixes ingredients or assembles ready-made parts.



B. Analytic - breaks down a raw material.



C. Conditioning - changes the form of raw materials.

Activity Sheet #2c

Name_____

Date_____

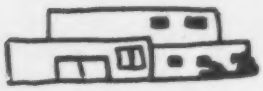
Steps in Manufacturing

IV. Distribution and Sales

Final price includes the cost of:

A) packaging ⟶

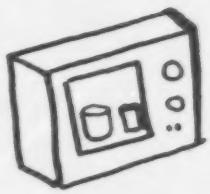
B) shipping ⟶

C) storing ⟶ 

D) commissions to sales persons and office workers ⟶

E) taxes ⟶

F) labeling and advertising



Activity Sheet #3a

Name_____

Date_____

*Industrial Revolution

BEFORE THE REVOLUTION, FARMING WAS THE MOST IMPORTANT OCCUPATION OF ALL THE PEOPLE. THE FARMER RAISED HIS OWN FOOD AND GREW LITTLE MORE THAN HE NEEDED. HE MADE MOST OF HIS OWN CLOTH, CLOTHING, FURNITURE, TOOLS, AND IMPLEMENTS.

HE SELDOM PURCHASED MORE THAN IRON FOR HIS PLOW POINT, SALT, AND PERHAPS AN OCCASIONAL ORNAMENT OR BIT OF RIBBON.

SOME MANUFACTURING WAS CARRIED ON IN TOWN. SUCH THINGS AS HARDWARE, CLOTH, SILVERWARE, JEWELRY, GUNS, CANNONS, SWORDS, AND AMMUNITION WERE PRODUCED BY CRAFTSMEN WORKING IN THEIR OWN LITTLE SHOPS WITH SIMPLE TOOLS. SOME GOODS WERE MANUFACTURED UNDER THE DOMESTIC SYSTEM.

EXPLAIN THIS SYSTEM_____

_____

_____

WHAT IS AN ENTREPRENEUR?_____

_____

_____

_____

*Facts taken from the World Book Encyclopedia, Field Enterprise Vol. 10, p. 184-195, 1969.

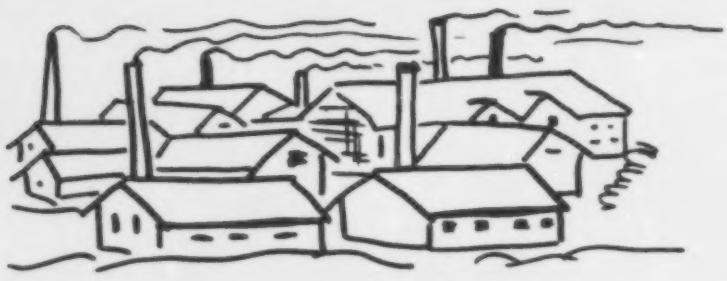
Activity Sheet #3b

Name_____

Date_____

IN 1750, ENGLAND TOOK THE LEAD IN PUTTING TOGETHER THE RESULTS OF BOTH SCIENCE AND CAPITAL TO SOLVE THE PROBLEMS OF PRODUCTION. PEOPLE WITH GREAT WEALTH BEGAN MAKING BETTER INVESTMENTS, AND INVENTORS QUIT PLAYING WITH MECHANICAL TOYS AND BEGAN TO DEVELOP CRUDE MACHINERY FOR MAKING NEW KINDS OF GOODS.

THIS LARGE MACHINERY REQUIRED LARGER BUILDINGS AND SKILLED WORKERS. LESS MANUFACTURING WAS BEING DONE IN THE HOME.



Name _____

Date _____

AS MORE PEOPLE WERE NEEDED TO WORK IN THE FACTORIES, MORE PEOPLE MOVED TO THE CITIES. WHAT COULD BE SOME SIDE EFFECTS OF THIS SITUATION?

_____

_____

_____

_____

_____

_____

_____

_____

WHAT ARE SOME OF THE INVENTIONS THAT HELPED CHANGE THE TEXTILE INDUSTRY? HOW?

_____

_____

_____

_____

WHAT ARE SOME INVENTIONS THAT HELPED TO CHANGE THE "IRON INDUSTRY"? HOW?

_____

_____

_____

_____

Activity Sheet #3d

Name_____

Date_____

1. Why was the standard of living raised by the improvements made in industry?_____

_____

_____

_____

2. What were some side effects of industry that led to the lowering of living standards?_____

_____

_____

_____

3. How did large - scale business depressions affect the lives of people?_____

_____

_____

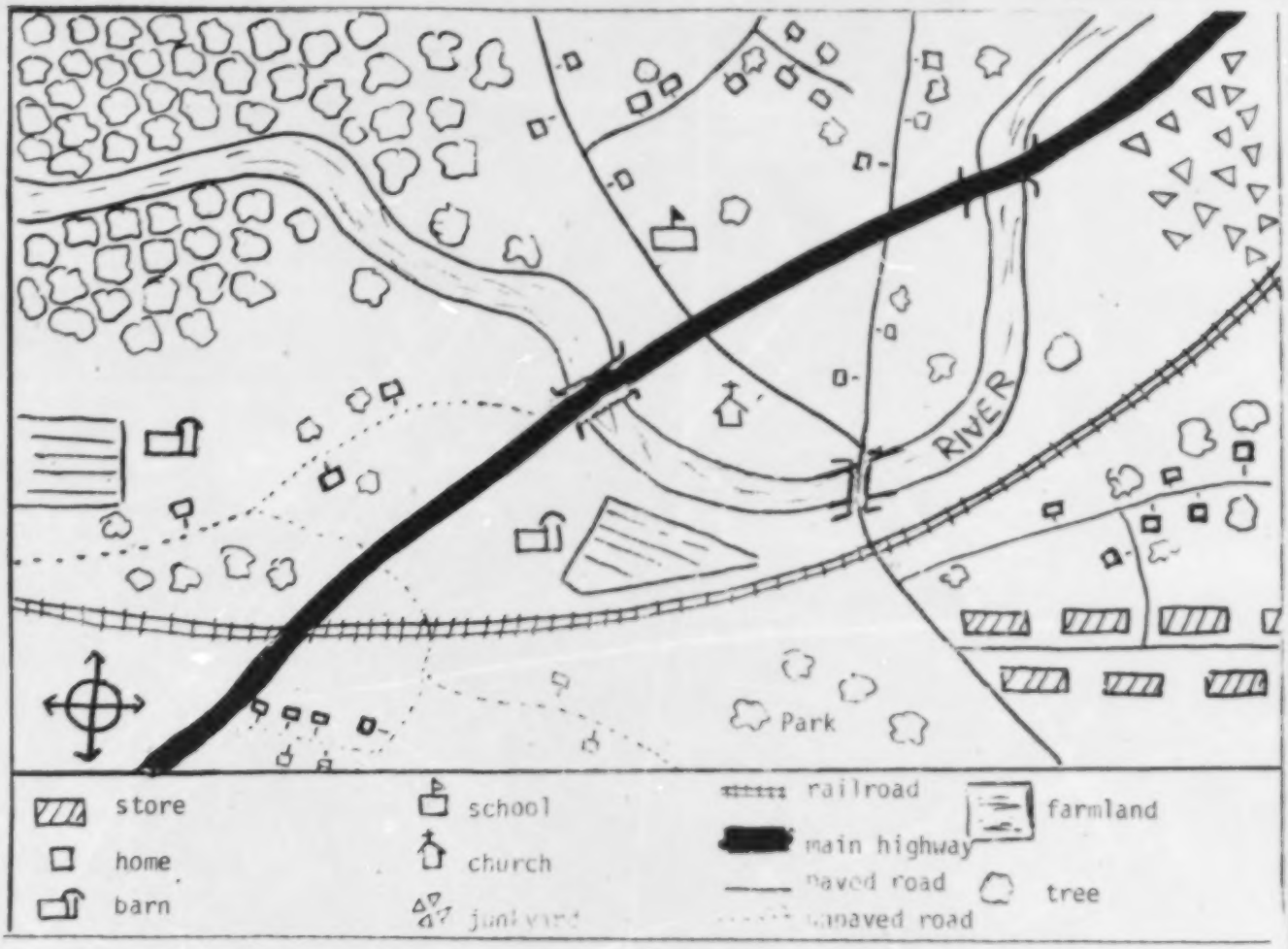
_____

4. After doing some research, list the good and bad effects of industry.

GOOD	BAD
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Activity Sheet #4

Name_____ Date_____



STUDY THIS MAP

1. Where would you locate a manufacturing industry in this area? Make a large red (X) to show the area that you feel is the most appropiate.

2. Why would you consider this area? (Tell why you chose that particular area and why you chose <u>not</u> to locate it in other areas.)

_____

_____

_____

_____

_____

_____

Discuss your answers with the rest of your class. Was your answer in agreement with the class?

Activity Sheet #5a

Name_____

Date_____

WORKER CHARACTERISTICS

John and Bill worked together cleaning up a small factory after the workers had left. John always put equipment back in its proper place. Bill cleaned well, but in his section he left materials and equipment wherever he moved them to clean. Bill felt he had done his job in having his section of the factory clean. When there was a job open that paid more money and had better hours, John was considered for the job.

1. What qualities did John display that made the personnel director consider him for a new job?

2. Why was Bill not considered although he worked well?

3. In what way could Bill improve his work?

Name_____

Date_____

WORKER CHARACTERISTICS

Two workers, Mary and Joe, are working on an assembly line assembling radios. Joe has been working at the job a long time and does his job very well. Mary, the new worker, is not well liked by Joe. Mary is having a terrible time keeping up and asks Joe to help her get caught up.

1. Should Joe help Mary? Why or why not?

2. What will happen if Mary doesn't get caught up?

3. Would Mary become dependent on Joe for help on the line?

Activity Sheet #5c

Name_____

Date_____

WORKER CHARACTERISTICS

Kim is a secretary for Mr. Blake, who is president of a big company. On several occasions, her boss has confided in her about problems in the company. During lunch she was talking to several other workers from the same company. One of the workers was telling the other workers about information from a private meeting. Kim was tempted to tell the workers about what she had heard.

1. Should the worker give the information to the other workers.
2. What could happen if the wrong information got to the other workers?
3. If you were Kim, would you repeat it back to your boss?
4. Why do people like to tell other people private information?

Activity Sheet #5d

Name_____

Date_____

WORKER CHARACTERISTICS

John, the foreman in a small factory, has asked his workers to give him suggestions on how to improve the line they work on. However, John immediately finds fault with every idea that his workers have. Many times the worker is not even allowed to finish explaining his/her ideas. The workers are becoming disgusted with John because of his short-sightedness and narrow-mindedness.

1. What is John doing wrong so far?

2. Is John's original idea a good one?

3. How can John improve the workers' relationships with him?

Activity Sheet #5e

Name_____

Date_____

WORKER CHARACTERISTICS

Bill is a good worker who tries very hard to get along with others and to do a good job. He likes to do things his own way, and he is so anxious to please that he often does jobs before he has complete directions.

1. Would you want Bill working for you? Why or why not?

2. How does failure to follow directions cost your company a lot of money?

3. What would you do to help Bill?

Activity Sheet #5f

Name_____

Date_____

WORKER CHARACTERISTICS

Sue is always on time for work. Betty, on the other hand, oversleeps and is seldom on time for work. Even though Sue is always on time, she is a poor worker. Betty may be late, but she is a hard worker.

1. Which person would you want working for you and why?

2. How would you help the person you named to improve?

Activity Sheet #6a

Name_____

Date_____

The following are suggested jobs that you may role-play. You and your teacher will decide which of these may be done individually and which will be done together. Underline those jobs that your class decides should be done together. Place a check (✓) in front of the jobs that you feel best fit your interest and aptitudes.

1. President of the company and/or board of trustees.

   a. Consult with such heads of departments as those from the: industrial management, accounting department, sales department, engineering department, and marketing-research department.

   b. After each of the departments report to you and your committee, decide what product will be sold, and for how much.

   c. During the manufacturing of the product, be alert to changes and improvements needed.

2. Engineering Department

___a. Engineers
   1) Design a product that may be easily built.
   2) Design a product that will work well on an assembly line.
   3) Decide what material will be needed to build the product and what the cost of a single item will be.
   4) Decide on the different steps needed to assemble the product.
   5) Decide if the product can be build in a reasonable period of time.
   6) Continue to try to improve the product at all times.
   7) Instruct the draftsmen what blue prints will need to be drawn.
   8) Instruct the lab technician how to test the product.
   9) Make reports to the head of the company.

___b. Draftsmen/or Draftswomen - Draw up blue prints or plans as directed by the engineers.

3. Lab Technicians - Test the product and the materials.

   a. Test to determine which glues and paint are the strongest and most durable.

   b. Test different materials with which the product might be built to determine which material is the best investment.

   c. Report the findings to the chief engineer.

Name_____

Date_____

4. Marketing Research

___ Research workers

a. Take three (3) items to other rooms. Survey as many students as possible to determine which product, what style, and which price ranges are the most popular. (See Activity Sheet #7) Identify the samples as A, B, & C.

b. Compile data from the interviews and the other surveys. Prepare sales forecasts.

c. Make recommendations to the engineers and other heads of departments on product design and advertising.

5. Purchasing

___ a. Decide how much the materials will cost to build the items in mass production.

b. Report to the engineers or the heads of the departments.

___ Purchasing Agent

a. Work in conjunction with the teacher to purchase all the materials.

b. Keep a record of all the bills, expenses, etc. Give these records to the bookkeepers. (See Activity Sheet #8)

6. Advertising Dept.

___ a. Head of dept. - Discuss with the heads of the advertising dept. workers and with the teacher the ways of advertising the company's product. Direct other workers in this department. (See Activity Sheet #9)

___ b. Poster designer - (Artist) Make posters to be displayed in the school. (See Activity Sheet #10)

___ c. Public Relations Manager - Go to other rooms or use the P.A. system to announce the sale of the product. Place posters in strategic places.

___ d. Label Designer and Artist - Design and make labels. Meet with the head of the department.

7. Personnel Department

____ Personnel Manager - Take applications. Remind the students that as they gain experience, they will be able to fill out more information. Give aptitude tests. Make the decision as to who will fill each job position. (See Activity Sheet #1a, 1b, 1c, & 1d)

Activity Sheet #6c

Name_____

Date_____

8. Factory

_____ a. Set up people - Arrange protective floor covering. Set up an assembly line; i.e., tables, chair, etc.

_____ b. Stock boy/girl - Keep workers supplied with materials.

_____ c. Assembly line workers - (Try to relate the work to an occupation)

_____1) gluer (welder, production line solderer, etc.)
_____2) painter - Paints
_____3) stapler - (riveter)
_____4) pattern maker - (Pattern maker, tool and die man, etc.)
_____5) Person cutting with scissors or knife - (machinists, machine tool operator)
_____6) labeller - Puts a label with the company's name on the product.
_____7) packager - Puts a certain number of products in each box.
_____8) inspector - Checks the work on the assembly line.

_____ d. Supervisors and Foremen - Oversee groups of workers. Check to see that the workers practice safety measures and wear safety glasses. Evaluate the jobs performed by the workers. (See Activity Sheet #12)

_____ e. Custodians - Keep the room clean.

9. Retailing Depts. (or Sales Dept.)

_____ a. Managers - Supervise the salesperson.

_____ b Stock workers - Mark the prices on the items.

_____ c. Salesperson - Sell the product. Give the customer orders to the distribution dept. and the money to the bookkeepers. (See Activity Sheets #13 and #14)

10. Distribution Dept.

_____ Distribution and Shipping Clerks - Check and fill the orders (See Activity Sheet #14) by placing the products in the containers, by putting names and addresses on the packages, and by shipping the packages to the customers. Keep a record of the materials sent.

11. General Office Workers

_____ a. Secretaries - Take care of the correspondence and the phone calls.

_____ b. Filing Clerks - File the information about workers, job applications, etc.

_____ c. Bookkeepers - Keep records from the sales and purchasing departments. (See Activity Sheet #15)

Activity Sheet #7

Name_____

Date_____

1. Which of these three products do you like the most? (circle one)

   A B C

2. What did you like least about the other two items?

   _____

   _____

   _____

   _____

   _____

3. What change would you like in the item you chose?

   _____

   _____

   _____

   _____

   _____

4. What do you feel would be a reasonable price for each item? (Circle one for each item.)

   Item A. 10¢ - 20¢ 25¢ - 45¢ 50¢ - 75¢

   B. 10¢ - 20¢ 25¢ - 45¢ 50¢ - 75¢

   C. 10¢ - 20¢ 25¢ - 45¢ 50¢ - 75¢

Activity Sheet #8

Name_____

Date_____

PURCHASING AGENT

Keep a record and a file of all purchases made. Give the bookkeeper a record of the items purchased.

Date Item Purchased	Explanation	Amount of Bill	Date Paid

Activity Sheet #9

Name_____

Date_____

HEAD OF ADVERTISING DEPARTMENT

Search to find information on how to advertise.

Here are a few simple rules in advertising taken from the World Book Encyclopedia.

1. Meet with the representatives of the company to discuss ideas on which to base the ad_____

   Our ideas are_____

   _____

   _____

2. Start with an idea. (Check if your ideas meet this test.)

   a. Best ads contain ideas that:

      _____1) appeal to the reader's self-interest

      _____2) arouse his curiosity

      _____3) offer him news

   b. A good advertisement does five (5) things. It -

      _____1) attracts attention

      _____2) arouses interest

      _____3) creates desires

      _____4) assures belief

      _____5) and impels action

3. Design the advertisement. Transfer the idea for the ad into words and pictures. Make a rough sketch or layout. Work with the artists in making the layout.

Activity Sheet #10

Name_____

Date_____

ARTIST

Search to find information on advertising and art.

Here are a few simple rules in advertising taken from the World Book Encyclopedia.

1. Meet with the head of your department to work out a layout (a rough plan for your posters).

   Does it meet these standards:

   _____a. attracts attention (color - size of print - slogans, etc.)

   _____b. arouses interest

   _____c. creates desires

   _____d. assures belief

   _____e. and implies action

2. Draw the finished illustration. Check to see that it:

   _____a. is neat

   _____b. is interesting

   _____c. is exciting

   _____d. is legible

APPLICATION FOR EMPLOYMENT

PERSONAL INFORMATION

DATE _____ SOCIAL SECURITY NUMBER _____

NAME _____ AGE ____
last first middle

PRESENT ADDRESS _____

PHONE NO. _____ DATE OF BIRTH _____ AGE _____
mo. day year

CITIZEN OF U.S.? YES ___ NO ___ HEIGHT _____FT. _____IN. WEIGHT _____LBS

MARITAL STATUS: SINGLE ___ MARRIED ___ DIVORCED ___ WIDOWED ___ DATE OF MARRIAGE _____

NUMBER OF DEPENDENTS INCLUDING YOURSELF ____ NUMBER OF CHILDREN ____ THEIR AGES _____

DOES YOUR WIFE(HUSBAND) WORK? ____ IF YES, WHERE? _____

HIS OR HER EARNINGS $ _____ PER WEEK. DO YOU OWN YOUR HOME? _____

BUYING YOUR HOME? ____ IF YOU RENT, MONTHLY RENT $ _____ OWN A CAR? _____

IF RELATED TO ANYONE IN OUR EMPLOY, STATE NAME AND DEPARTMENT _____ REFERRED BY _____

POSITION DESIRED

TYPE OF WORK YOU CAN DO _____ SALARY DESIRED $ _____ HR. WK. MO.

ARE YOU NOW EMPLOYED? _____ DATE YOU CAN START _____ MAY WE CONTACT YOUR PRESENT EMPLOYER? _____

WERE YOU EVER EMPLOYED BY US BEFORE? _____ IF YES, WHEN AND WHERE _____

last first middle

Activity Sheet #11b

EDUCATION	NAME AND LOCATION OF SCHOOL	YEARS ATTENDED	YEAR GRADUATED	COURSE OF STUDY AND DEGREES EARNED
Elementary and High School				
COLLEGE				
TRADE, BUSINESS, SPECIALITY SCHOOL				

SUBJECTS OF SPECIAL STUDY OR INTEREST

SERVICE IN U.S. ARMED FORCES RANK PRESENT MEMBERSHIP IN NATIONAL GUARD OR RESERVES

SPECIAL TRAINING IN ARMED FORCES

WORK EXPERIENCE (ENTER LAST JOB FIRST SHOWING LAST FIVE EMPLOYERS)

NAME AND ADDRESS OF COMPANY	DATE FROM	DATE TO	LIST YOUR DUTIES	STARTING SALARY	FINAL SALARY	REASON FOR LEAVING

Activity Sheet #11c

REFERENCES: GIVE BELOW THE NAMES OF THREE PERSONS NOT RELATED TO YOU WHOM YOU HAVE KNOWN AT LEAST ONE YEAR.

	NAME	ADDRESS	YEARS ACQUAINTED
1.			
2.			
3.			

PHYSICAL RECORD:

DO YOU HAVE ANY PHYSICAL DEFECTS?____BACK?___ HEARING?___VISION?___SPEECH?___OTHER?____

DESCRIBE_____

HAVE YOU HAD A MAJOR ILLNESS IN THE PAST 5 YEARS?____IF YES, DESCRIBE_____

_____

HAVE YOU RECEIVED COMPENSATION FOR INJURIES?____IF YES, DESCRIBE_____

_____

IN CASE OF EMERGENCY NOTIFY_____

I AUTHORIZE INVESTIGATION OF ALL STATEMENTS CONTAINED IN THIS APPLICATION. I UNDERSTAND THAT MISREPRESENTATION OR OMISSION OF FACTS CALLED FOR IS CAUSE FOR DISMISSAL.

DATE_____ SIGNATURE_____

Activity Sheet #11d

Name_____

Date_____

APTITUDE INVENTORY FOR EMPLOYMENT

Having an interest in a career is not all that is necessary to pursue it successfully. You must have the necessary aptitude, too. In order that our company may place you in a suitable position, please answer yes or no to the following questions.

_____ 1. Do you prefer to work alone?

_____ 2. Are you a good leader?

_____ 3. Do you enjoy meeting and talking to new people?

_____ 4. Are you good with numerals?

_____ 5. Have you ever handled money?

_____ 6. Do you enjoy traveling?

_____ 7. Can you work steadily, fast, and accurately?

_____ 8. Could you notice small mistakes?

_____ 9. Would you rather follow directions than give them?

_____10. Do you enjoy working in large groups?

_____11. Would you rather work in a small group?

_____12. Can you draw well?

_____13. Are you good at thinking of new and better ideas?

_____14. Can you alphabetize?

_____15. Is your penmanship neat and legible?

_____16. Do you like office work?

_____17. Are you able to take responsiblity?

_____18. Do you usually dress well enough to represent our company confidently?

_____19. Would you find it easy to be a salesperson?

_____20. Are you generally able to fix or repair things?

Activity Sheet #12
Evaluation of Performance

Name_____

Date_____

Company_____ Trainee_____

Please return Evaluation Sheet to_____

Your evaluation of the worker should be based on a 1 to 5 scale for each of the categories listed below (1 = lowest rating; 5 = highest rating). The statements after the number are only "suggested" interpretations. Please place a check mark in front of the number that best evaluates the worker in this career unit.

ACCURACY OF WORK
_____ 1. Makes many errors
_____ 2. Is careless
_____ 3. Usually accurate
_____ 4. Is careful
_____ 5. Consistantly accurate

CARE OF WORKING AREA
_____ 1. Very untidy
_____ 2. Careless
_____ 3. Keeps area clean
_____ 4. Keeps area clean and orderly
_____ 5. Exceptionally clean and orderly

USE OF MATERIALS/EQUIPMENT
_____ 1. Rough
_____ 2. careless
_____ 3. Adequate
_____ 4. Careful
_____ 5. Very careful

SPEED IN PERFORMING DUTIES
_____ 1. Very slow
_____ 2. Slow
_____ 3. Adequate
_____ 4. Fast
_____ 5. Exceptionally fast

USE OF WORKING TIME
_____ 1. Very wasteful
_____ 2. Wastes time
_____ 3. Fair use of time
_____ 4. Keeps busy
_____ 5. Busy and effective

ATTITUDE TOWARD SUPERIORS
_____ 1. Disrespectful
_____ 2. Poor cooperation
_____ 3. Cooperates when asked
_____ 4. Cooperates willingly
_____ 5. Very respectful, helpful

JOB LEARNING AND APPLICATION
_____ 1. Little or no learning
_____ 2. Learns with difficulty
_____ 3. Adequate
_____ 4. Learns with ease
_____ 5. Exceptional ability

RESPONSIBILITY
_____ 1. Irresponsible
_____ 2. Evades responsibility
_____ 3. Accepts responsibility
_____ 4. Seeks responsibility
_____ 5. Seeks and handles responsibility well

INITIATIVE
_____ 1. Doesn't exhibit any
_____ 2. Very little
_____ 3. Average
_____ 4. Needs little directions
_____ 5. Self-Motivated

ATTENDANCE
_____ 1. Always absent or late
_____ 2. Often absent or late
_____ 3. Occ. absent or late
_____ 4. Seldom absent or late
_____ 5. Never absent or late

ATTITUDE TOWARD CO-WORKERS
_____ 1. Does not get along
_____ 2. Poor interaction
_____ 3. Gets along satisfactorily
_____ 4. Works well with others
_____ 5. Excellent relationship

PERSONAL APPEARANCE
_____ 1. Slovenly
_____ 2. Untidy
_____ 3. Tidy
_____ 4. Neat, in good taste
_____ 5. Exceptionally pleasing

ADDITIONAL COMMENTS_____

SIGNATURE_____ POSITION_____

Activity Sheet #13

Name_____

Date_____

Bill of sale - use these only for orders - keep duplicate copies.

Date ordered_____ Date_____ No._____

Sold to:_____

Item_____ Price_____

Salesperson_____

Date ordered_____ Date_____ No._____

Sold to:_____

Item_____ Price_____

Salesperson_____

Date ordered_____ Date_____ No._____

Sold to:_____

Item_____ Price_____

Salesperson_____

Date ordered_____ Date_____ No._____

Sold to:_____

Item_____ Price_____

Salesperson_____

Activity Sheet #14
To be used by Salespeople and Salesclerks

Keep a record of orders.

Date	Item Ordered	Ordered By	Price	Delivery Date	Date or Check Paid

Activity Sheet #15
Bookkeeping Department

Keep a record of all purchases.

Date	Explanation	Debit	Credit
	TOTAL		